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A REEVALUATION OF *SESARMA BARBIMANUM* CANO, 1889 AND *S. CRASSIPES* CANO, 1889 (CRUSTACEA: DECAPODA: GRAPSIDAE)

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Abstract.—The systematic status of 2 species of brachyuran crabs described by Cano in 1889 is examined. The types of both species were originally deposited in the Naples Museum but no information on their status is available. *Sesarma barbimana,* type-locality Payta, Peru, is considered a mislabeled specimen of *Nanosesarma minutum* (De Man, 1887), a wide ranging Indo-West Pacific species. The second species, *Sesarma crassipes,* type-locality Pernambuco, Brazil, is considered valid and a male from the Caribbean coast of Costa Rica is described and illustrated.

G. Cano in 1889 reported on the Brachyura and Anomura collected during the world cruise made by the *Vettor Pisani* in 1882 to 1885. Collecting stations were made in the Atlantic, Antarctic, Indo-West Pacific, central Pacific, eastern Pacific and Red Sea. He listed 219 species (not 220 as stated), including 2 species of the brachyuran genus *Sesarma* which he described as new. These are *S. crassipes,* type-locality Pernambuco, [Brazil] and *S. barbimana,* type-locality Payta [Peru]. No material of either species was reported on until 1972 when Coelho and Ramos (1972) listed *S. crassipes* from estuaries in Pernambuco. *Sesarma barbimana* remains unreported from Payta or anywhere else, although Tweedie (1950) suggested that the species should be transferred to the genus *Nanosesarma* Tweedie, 1950.

During a revision of the American species of *Sesarma* now in progress, it became necessary to determine the status of the above 2 species. Search in crustacean collections of the National Museum of Natural History, Washington, D.C., the Museum of Comparative Zoology, Cambridge, the American Museum of Natural History, New York, the Peabody Museum of Natural History, New Haven, and the Allan Hancock Foundation, Los Angeles, revealed but a single specimen that could be attributed to either species. This is a male from the Atlantic coast of Costa Rica identified as *S. crassipes* by Dr. Fenner A. Chace, Jr., of the National Museum of Natural History. No other material of either species was found in the identified or unidentified collections. Inquiries to the Naples Museum, the site where the types were originally deposited, have been unanswered. Fieldwork on both coasts of Panama also failed to reveal either species.

The present report describes and illustrates the single available male of *S. crassipes* (it was not possible to obtain the Pernambuco specimens) and suggests that the type-specimen of *Sesarma barbimana* did not actually come from Payta but is a junior subjective synonym of *Nanosesarma minutum* (De Man, 1887), a widespread Indo-West Pacific species.

The status of *Sesarma barbimana* Cano, 1889

Sesarma barbimanum was described from a single female specimen with a carapace length of 6 mm and breadth of 7 mm. The type, if adult, is very small for a species of *Sesarma*. Cano notes 2 characteristics that preclude placement of *S. barbimanum* in the genus *Sesarma*: (1) the chelae are coarsely and densely pilose outside and (2) the merus joints of the legs have a broad dilation below which ends in a strong tooth. No American species of *Sesarma* has these characteristics and, to my knowledge, no other species in the genus *Sesarma* shares these characteristics. Tweedie (1950) had already recognized this and placed *S. barbimanum* in the genus *Nanosesarma* Tweedie, 1950. There are 10 nominal species in the genus *Nanosesarma* and none occurs in American waters. Serène and Soh (1970) recognized 2 subgenera of *Nanosesarma, Nanosesarma* and *Beanium* Serène and Soh, 1970; *barbimanum* would be in the former subgenus. Six species have been placed in the subgenus *Nanosesarma*: *minutum* De Man, 1887; *jousseaumei* Nobili, 1905; *gordoni* Shen, 1935; *pontianacensis* DeMan, 1895; *tweediei* Serène, 1967; *vestitum* Stimpson, 1858, and of these only *N. minutum* (De Man, 1887), *N. pontianacensis* (De Man, 1895) and possibly *N. vestitum* (Stimpson, 1858) are considered valid by Serène and Soh (1970). The description of *S. barbimanum* corresponds to that of *N. minutum* which is a widespread and common species. It should be pointed out that Tweedie (1950) selected *S. andersoni* De Man, 1887 as the type-species of *Nanosesarma* Tweedie, 1950. However, Serène and Soh (1970) incorrectly indicated *S. minutum* De Man, 1887 as the type-species of *Nanosesarma* and included *S. andersoni* in their subgenus *Beanium*. They indicated *S. batavica* Moreira, 1903 (=*S. barbimana* De Man, 1890 a name preoccupied by *S. barbimana* Cano, 1889) as the type-species of *Beanium*. Since the diagnosis of *Beanium* includes the characteristics of *S. andersoni,* the type-species of *Nanosesarma, Beanium* would seem to be a subjective junior synonym of *Nanosesarma*.

Rathbun (1910) pointed out that it is unlikely that many of the species listed by Cano from both Panama and Payta actually were collected there. Of the 13 species listed by Cano from Payta, Rathbun notes that 7 are typical Indo-West Pacific species. The possibility thus exists that Payta is also an incorrect locality for the type-specimen of *S. barbimanum*. I therefore consider *S. barbimanum* Cano, 1889 to be a junior subjective synonym of *N.*

minutum (De Man, 1887). The synonymy, based on Serène and Soh (1970), would then be:

Nanosesarma minutum (De Man, 1887)

Sesarma minuta De Man, 1887:650.
Sesarma barbimanum Cano, 1889 (?-type-locality Payta).
S. (Sesarma) jousseaumei Nobili, 1905:411.
Sesarma (Sesarma) gordoni Shen, 1935:27, text-fig. 7.
Nanosesarma gordoni: Tweedie, 1950:311.

The status of *Sesarma crassipes* Cano, 1889

Cano reported 11 species of decapods from Pernambuco and, in contrast to his material reported from Payta, all but 2 of the 11 species had been previously recorded from Brazil. These were *Actumnus Targionii* n.sp. and *Sesarma crassipes* n.sp.; I can find no reference to the former species; therefore the present report deals only with the latter species. It would appear then that we can be reasonably sure that Pernambuco is the correct locality for *Sesarma crassipes*.

The species, *S. crassipes,* is mentioned by Cano in the original description, De Man (1892), Rathbun (1897, 1918), Tesch (1917), and by Coelho and Ramos (1972). Only Cano (1889) and Coelho and Ramos (1972) had any material of this species available. As noted earlier, I was unable to get any information from the Naples Museum and can only assume that the holotype is no longer extant. There are a few specimens in Brazilian museums but these are not available at this time. I have unsuccessfully attempted to collect material of this species in Panama and Jamaica. Therefore, the following illustrations and descriptions are based on the single male from Costa Rica in the National Museum of Natural History (USNM113280).

Sesarma crassipes Cano, 1889
Figs. 1, 2

Sesarma crassipes Cano, 1889:93 (type-locality, Pernambuco).
Ses. crassipes: De Man, 1892:261.
Sesarma crassipes: Rathbun, 1897:90.
Sesarma (Sesarma s.s.) crassipes: Tesch, 1917:142.
Sesarma (Sesarma) crassipes: Rathbun, 1918:294.
Sesarma (Sesarma) crassipes: Coelho and Ramos, 1972:204.

The carapace is broader than long (*cl/cb* = 0.89) with indistinct granules, each with a small amount of pubescence, present on the anterior and lateral regions of the carapace; they are sparse medially and posteriorly. The lateral margins diverge slightly posteriorly. The interorbital region is subdivided

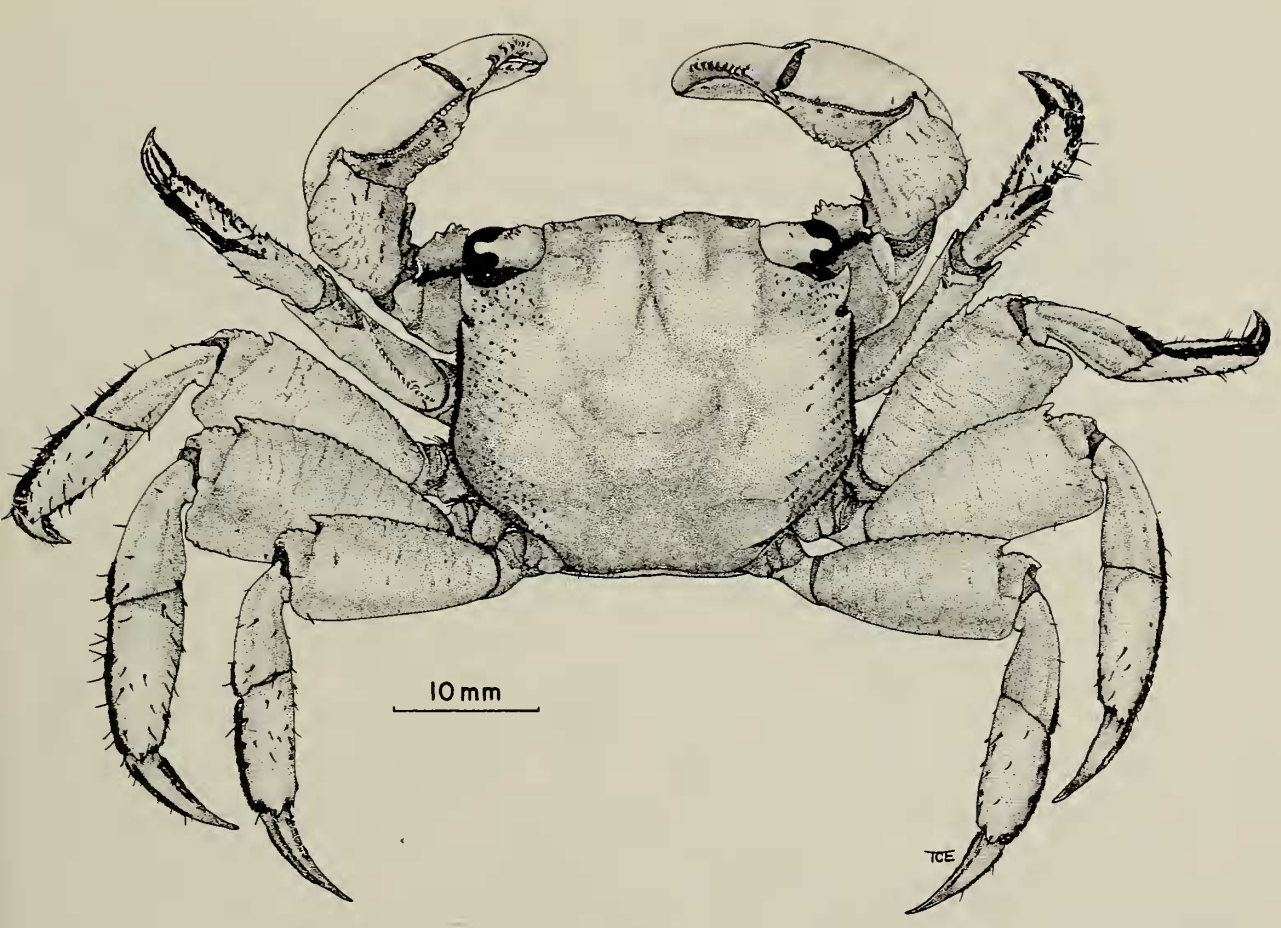

Fig. 1. *Sesarma crassipes*. Male from near Tortuquero, Costa Rica (USNM 113280).

into 4 distinct lobes; the median sinus is deeper than the submedial pair. The frontal region is about 0.56 of the carapace breadth; it is concave medially and oblique with a very small concave region to the lateral margins which flare very slightly. A distinct groove from the lateral margin of the frontal region extends posteriorly on the dorsal surface of the carapace to about the level of the lateral tooth. The posterior orbital margin is thickened, slightly sinuous and extends anteriorly forming a large, acute, outer orbital angle. A distinct lateral tooth is present on a higher level than the outer orbital angle. There are about 9 oblique granular ridges on the lateral surface of the carapace.

The eyes are well developed and pigmented. The basal antennular segment is wide and short; the palp is slightly longer than the width of the basal segment. The basal antennal segment is expanded laterally to form part of the medioventral portion of the orbit; ventrally it forms part of Verwey's groove. There is a subtriangular area on the pterygostomial region delimited dorsally by Verwey's groove. The entire suborbital region is covered by short hairs.

The third maxillipeds are gaping, exposing the inner mouth parts; they have long setae along the medial edge and an oblique row of pubescence on the merus.

The male chelipeds are robust. In the present specimen the right is slightly

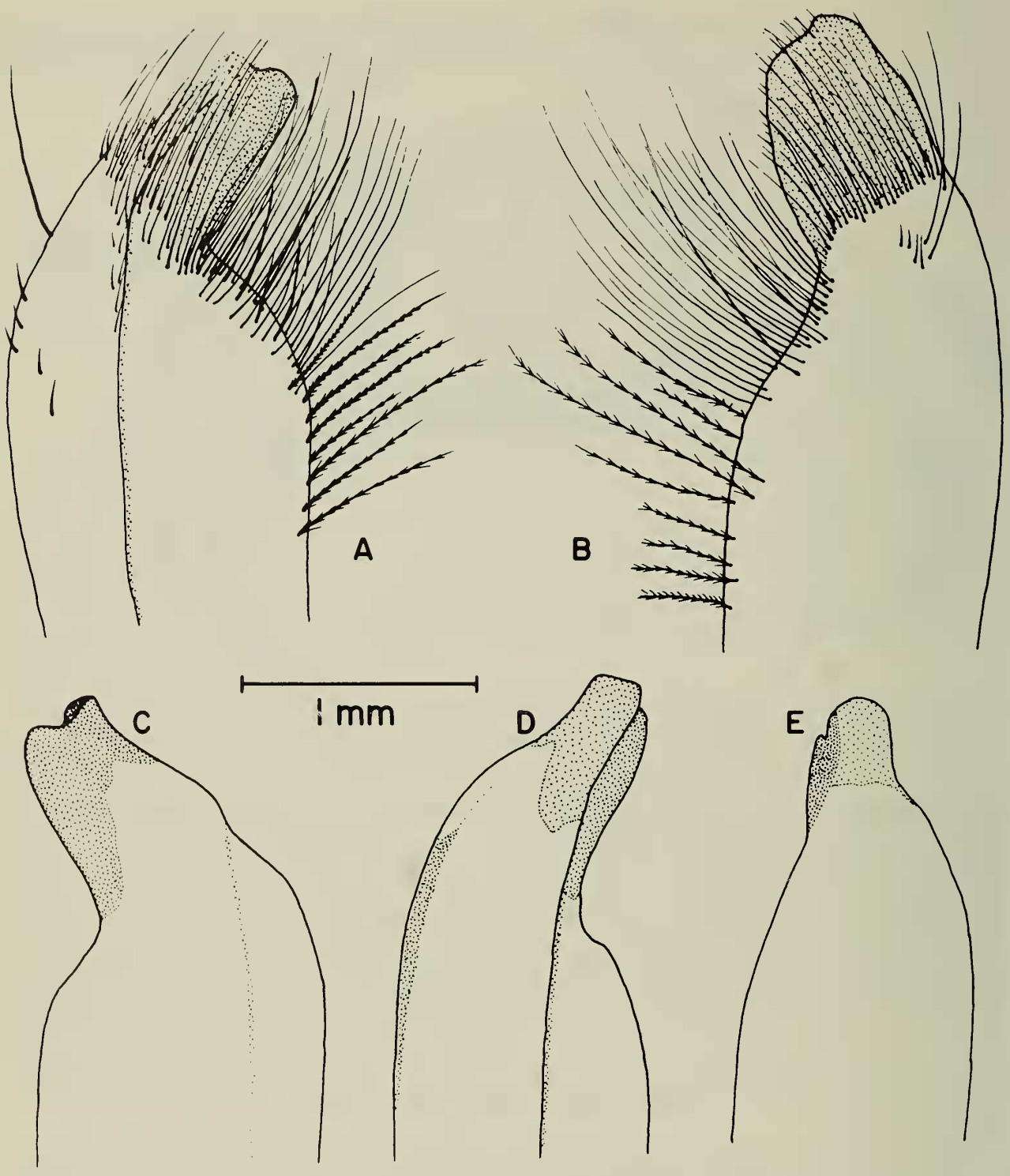

Fig. 2. *Sesarma crassipes*. Gonopods from male (USNM 113280). **A**, Left gonopod in anterior view; **B**, Left gonopod in posterior view; **C–E**, Right denuded gonopod in anterior, posterior and medial views respectively.

larger than the left. The posterior mesial border of the merus is weakly toothed ending in a distinct notch proximal to the distal margin. The anterior mesial border is strongly toothed and expanded distally. Two rows of pubescence are present on the mesial surface. The lateral border of the merus is toothed and ends in a notch proximal to the distal margin. The mesial border of the carpus is delimited into an acute angle by a row of tubercles;

below this angle are 2 large and about 3 small tubercles; the lateral border is rounded and the entire surface is covered by short rugae. The dorsal surface of the palm is marked by a distinct row of tubercles which extends beyond the distal margin; the lateral surface of the palm is smooth to very weakly marked by short rows of tubercles; the mesial surface has about 10 large tubercles and 15–20 smaller tubercles that extend to and weakly delimit the ventral border of the palm. There are 8–12 tubercles present on the dorsal surface of the movable finger extending from the proximal margin and ending proximal to the corneous, spooned tip of the finger; ventrally there is a large, subbasal tooth and 2–3 smaller distal ones. The immovable finger is armed with a large basal tooth, a subequal one distally and 2 weaker teeth proximal to the corneous, spoon-shaped tip. The walking legs increase in length in the order: first, fourth, second and third. For the third walking leg (fourth pereopod) the merus is about twice the length of the carpus which in turn is shorter than the propodus; the dactylus is slightly shorter than the carpus. The merus length is about twice the width; transverse rows of granules are present and a large subdistal tooth is on the dorsal margin. The walking legs have a ventral and dorsal row of thick pubescence extending from the dorsal distal part of the carpus to the distal margin of the propodus where it extends as 3 narrow rows to the distal part of the dactylus; ventrally the row begins on the distal part of the propodus and continues as 3 narrow rows on the dactylus. The ventral surface of the propodus is armed with about 3–5 pairs of irregularly spaced dark-colored spines; on each side of the ventral distal margin there are about 4–5 dark-colored spines.

The abdomen is subtriangular in outline; the length and width of the telson are subequal. The endpiece of the male gonopod is short and subrectangular in form; there is a shallow sinus on the distolateral margin.

Measurements.—The single available male is sexually mature and has a *cb* of 25.5 mm and *cl* of 22.2 mm. Cano (1889) stated that the male holotype has a *cb* of 22 mm and a *cl* of 18 mm.

Type.—The male holotype is presumed to be lost.

Type-locality.—Pernambuco, Brazil.

Distribution.—The species is known from near Tortuquero, Costa Rica, and Pernambuco, Brazil.

Habitat.—The label accompanying the specimen from Costa Rica indicates that it was "dipnetted along shore" about 2 miles above the mouth of the Tortuquero River at Leo's (USNM 113280). Coelho and Ramos (1972) list the species from estuaries at Pernambuco.

Remarks.—The rediscovery of *S. crassipes* results in 8 species of the subgenus *Sesarma* now being recognized from the western Atlantic. These are: *bidentatum* Benedict, 1892; *cookei* Hartnoll, 1971; *crassipes* Cano, 1889; *curacaoense* De Man, 1892; *jarvisi* Rathbun, 1914; *reticulatum* Say,

1817; *rectum* Randall, 1839; *verleyi* Rathbun, 1914. The following combination of characters will serve to distinguish *S. crassipes* from the above species: Carapace not convex, regions clearly delimited; strong anterolateral tooth present on a higher level than outer orbital angle; frontal region slightly more than half carapace breadth; movable finger armed dorsally with 8–12 acute tubercles; merus of fourth pereopod with length about twice width.

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